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[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2011-1165; Directorate Identifier 2011-NM-002-AD]**

**RIN 2120-AA64**

**Airworthiness Directives;** The Boeing Company Model 777-200 and -300 Series Airplanes

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 777-200 and -300 series airplanes. This proposed AD would require replacing certain single-tabbed bonding brackets in the airplane empennage with two-tabbed bonding brackets. This proposed AD would also require, for certain airplanes, installing new bonding jumpers, and measuring the resistance of the modified installation to verify resistance is within specified limits. This proposed AD was prompted by reports of two failures of the single-tabbed bracket on the rudder. We are proposing this AD to prevent failure of the bonding jumper bracket, which could result in loss of lightning protection ground path, which could lead to increased lightning-induced currents and subsequent damage to composite structures, hydraulic tubes, and actuator control electronics. In the event of a lightning strike, loss of lightning ground protection could result in the loss of control of the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail [me.boecom@boeing.com](mailto:me.boecom@boeing.com); Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Georgios Roussos, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, Seattle Aircraft Certification Office (ACO), FAA, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone (425) 917-6482; fax (425) 917-6590; e-mail: [georgios.roussos@faa.gov](mailto:georgios.roussos@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2011-1165; Directorate Identifier 2011-NM-002-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

### **Discussion**

We received reports of two failures of the single-tabbed bracket on the rudder. The bracket was discolored and melted, the tab was completely severed and burned, and the bonding jumpers were detached from the bracket. We also received a report of a similar failure of the ground clip that connects to the other end of the jumpers to the vertical stabilizer. Boeing has determined that the root cause of these failures was a combination of electromagnetic forces on the jumpers and resistive heating of the bracket and ground clip during lightning strikes. This condition, if not corrected, could result in loss of lightning protection ground path, which could lead to increased lightning-induced currents and could subsequently damage composite structures, hydraulic tubes, and actuator control electronics. In the event of a lightning strike, loss of lightning ground protection could result in loss of control of the airplane.

### **Relevant Service Information**

We reviewed Boeing Service Bulletin 777-55A0014, Revision 1, dated April 1, 2010. This service bulletin describes procedures for replacing certain single-tabbed bonding brackets in the airplane empennage with two-tabbed bonding brackets.

Boeing Service Bulletin 777-55A0014, Revision 1, dated April 1, 2010, specifies prior or concurrent accomplishment of Boeing Service Bulletin 777-55A0010, Revision 1, dated April 17, 2001, for installing new bonding jumpers, and measuring the resistance of the modified installation to verify resistance is within specified limits.

### **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

### **Proposed AD Requirements**

This proposed AD would require accomplishing the actions specified in the service information described previously.

### **Costs of Compliance**

We estimate that this proposed AD affects 87 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

#### **Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Replacement	21 work-hours X \$85 per hour = \$1,785	\$1,235	\$3,020	\$262,740

### Estimated costs for Concurrent Actions

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Replacement	66 work-hours X \$85 per hour = \$5,610	\$2,668	\$8,278	\$248,340

### Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**The Boeing Company:** Docket No. FAA-2011-1165;

Directorate Identifier 2011-NM-002-AD.

#### **Comments Due Date**

(a) We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

#### **Affected ADs**

(b) None.

#### **Applicability**

(c) The Boeing Company Model 777-200 and -300 series airplanes, certificated in any category, as identified in Boeing Service Bulletin 777-55A0014, Revision 1, dated April 1, 2010.

**Subject**

(d) Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 55: Stabilizers.

**Unsafe Condition**

(e) This AD was prompted by reports of two failures of the single-tabbed bonding bracket on the rudder. We are issuing this AD to prevent failure of the bonding jumper bracket, which could result in loss of lightning protection ground path, which could lead to increased lightning-induced currents and subsequent damage to composite structures, hydraulic tubes, and actuator control electronics. In the event of a lightning strike, loss of lightning ground protection could result in loss of control of the airplane.

**Compliance**

(f) Comply with this AD within the compliance times specified, unless already done.

**Replacement**

(g) Within 48 months after the effective date of this AD, replace certain single-tabbed bonding brackets in the airplane empennage with two-tabbed bonding brackets, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 777-55A0014, Revision 1, dated April 1, 2010.

**Concurrent Requirements**

(h) For airplanes identified in Boeing Service Bulletin 777-55A0010, Revision 1, dated April 17, 2001: Prior to or concurrently with accomplishing the requirements of paragraph (g) of this AD, install new bonding jumpers, and do resistance measurements of the modified installation to verify resistance is within the limits specified in the Accomplishment Instructions of Boeing Service Bulletin 777-55A0010, Revision 1, dated April 17, 2001. Do the actions in accordance with the Accomplishment Instructions of Boeing Service Bulletin 777-55A0010, Revision 1, dated April 17, 2001.

### **Credit for Actions Accomplished in Accordance with Previous Service Information**

(i) Replacing certain single-tabbed bonding brackets with two-tabbed bonding brackets in accordance with Boeing Alert Service Bulletin 777-55A0014, dated May 8, 2008, before the effective date of this AD, is acceptable for compliance with the corresponding modification required by paragraph (g) of this AD.

(j) Installing new bonding jumpers, and doing resistance measurements of the modified installation that verify the resistance is within the specified limits, in accordance with Boeing Alert Service Bulletin 777-55A0010, dated October 26, 2000, before the effective date of this AD, is acceptable for compliance with the corresponding modification required by paragraph (h) of this AD.

### **Alternative Methods of Compliance (AMOCs)**

(k)(1) The Manager, Seattle Aircraft Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD. Information may be e-mailed to:

[9-ANM-Seattle-ACO-AMOC-Requests@faa.gov](mailto:9-ANM-Seattle-ACO-AMOC-Requests@faa.gov).

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

### **Related Information**

(l) For more information about this AD, contact Georgios Roussos, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, Seattle Aircraft Certification Office (ACO), FAA, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone (425) 917-6482; fax (425) 917-6590; e-mail: [georgios.roussos@faa.gov](mailto:georgios.roussos@faa.gov).



(m) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail [me.boecom@boeing.com](mailto:me.boecom@boeing.com); Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on October 20, 2011.

Kalene C. Yanamura,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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